A **NEW TOOL** TO MEASURE THE IMPACT OF DENTAL DECAY ON CHILDREN'S LIVES

Tooth decay (caries) is the most common chronic disease to affect children worldwide.

It causes **significant negative impacts,** such as toothache, infection, and difficulty sleeping and eating.

There are many ways to prevent and treat tooth decay, but we **don't know which are the most cost-effective.**

There is a **lack of high-quality economic evaluations** in child oral health research to provide evidence for decision-making.

There are no appropriate tools that measure cost-effectiveness as well as the impact of tooth decay on children's quality of life.
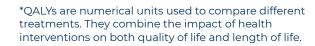
A better way to **evaluate the impact of tooth decay** on children's quality of life

CARIES-QC-U is a new tool, developed from CARIES-QC, which can help determine which oral health interventions are both impactful and cost-effective for children with dental decay.

CARIES-QC: Caries Impacts and Experiences Questionnaire for Children

- Contains 13 questions and has a simple scoring system

- Captures the impact of caries on children's oral health-related quality of life

- Used in several trials

- Translated and validated for use with 5- to 16-year-olds in many countries

- **Can't generate Quality Adjusted Life Years (QALYs)* which are needed to evaluate cost-effectiveness**

*QALYs are numerical units used to compare different treatments. They combine the impact of health interventions on both quality of life and length of life.

CARIES-QC-U: Caries Impacts and Experiences Questionnaire for Children - **Utility Version**

- CARIES-QC-U is embedded within CARIES-QC

- Developed to generate QALYs* to capture the impact of caries **and** evaluate the cost-effectiveness of dental interventions

- Contains five questions selected from CARIES-QC and a value set based upon the preferences of adolescents

- We involved children and adolescents throughout the development to ensure the instrument reflects what young people care most about

HOW DOES **CARIES-QC-U** WORK?

1

Children and young people answer all 13 questions within CARIES-QC. Their responses to the five questions that form CARIES-QC-U describe their **health state.**

2

Researchers review the adolescent value set to identify the **utility score** that corresponds to the selected health state. This represents the quality of life component of a QALY.

3

Combining the quality of life score with the length of life that an individual has spent in the selected health state can generate **QALYs**.

HEALTH STATE

UTILITY SCORE **=** QUALITY OF LIFE SCORE

QUALITY OF LIFE SCORE **X** LENGTH OF LIFE **= QALY**

THE CHILD-CENTRED NATURE OF **CARIES-QC-U:**

✓ Children and parents were involved in selecting the five questions.

✓ The value set was created by asking young people to complete a series of tasks to find out what matters most to them.

✓ As a result, the quality of life score is weighted towards what young people care most about.

CARIES-QC-U CAN INFORM DECISION-MAKING AND IMPROVE CHILDREN'S ORAL HEALTH BY:

Enabling researchers and dental professionals to better understand the experiences of children and young people with decay.

Allowing QALYs to be generated to help determine the cost-effectiveness of interventions to improve children's oral health.

Generating further evidence for children's oral health service commissioning, to ensure that the most impactful interventions are funded.

We invite researchers to add **CARIES-QC** and **CARIES-QC-U** to their studies to increase the evidence base and facilitate translation and cross-cultural validation for use beyond the UK. The tool is freely available for non-commercial use: **bit.ly/caries-qc**

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